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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/760,169	01/12/2001	Ursula Murschall	00/002 MFE	2792

7590 12/18/2001
ProPat, L.L.C.
2912 Crosby Road
Charlotte, NC 28211

EXAMINER

UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
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1773

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DATE MAILED: 12/18/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/760,169

Applicant(s)

MURSCHALL ET AL.

Examiner

Nikolas J. Uhler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 13-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-18 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-12, drawn to an oriented film, classified in class 428, subclass 480.
- II. Claims 13-18, drawn to a process for making an oriented film via extrusion, classified in class 523, subclass 351.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions 2 and 1 are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, instead of producing the film via extrusion, the film could be cast, and then oriented.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Klaus Schweitzer on 12/05/01 a provisional election was made with traverse to prosecute the invention of the product film, claims 1-12. Affirmation of this election must be made by applicant in replying to this Office

action. Claims 13-18 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the

claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 2 recites the broad recitation "comprises polyethylene terephthalate, polybutylene terephthalate, or polyethylene naphthalate", and the claim also recites preferably polyethylene terephthalate which is the narrower statement of the range/limitation. In the instant case, removing the phrase "preferably polyethylene terephthalate" is sufficient to overcome this rejection.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The limitations "fed directly as a masterbatch during production of the film" in claim 1 is a product-by-process limitation that does not appear to be further limiting in terms of evaluating the prior art since it is not further limiting in so far as the structure of the final product is concerned. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113.

10. Claims 1-4, 7-8 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Rakos et al. (US6251505) in view of Oishi et al. (US5936048).

Rakos et al. teaches a composite multilayer film comprising a primary unfilled polyester film layer and a secondary polyester layer containing 1-8% by weight of finely divided silica particles. These particles have a diameter of 2.3 to 6.2 microns (abstract). This film is preferably made from polyethylene terephthalate (column 4 lines 33-35). This film may be uniaxially/biaxially oriented or unoriented (column 4 lines 40-41). Secondary layers of polyester can be layered on one or both sides of the primary layer. The total thickness of the film is between 50-250 microns (column 5 lines 16-22). The silica particles used as the filler material should not have a diameter greater than 13 microns and the film should not contain greater than 8% by weight of particles, as an excessive amount can result in the film having unacceptable haze and light transmission (column 5 line 38-55). Additionally, Rakos et al. teaches that the layers of the film may contain any of the additives conventionally employed in the manufacture of polyester films. Examples are pigments, dyes, lubricants, anti-oxidants, antiblocking agents, gloss improvers, optical brighteners, and ultraviolet light stabilizers (column 6 lines 42-55). It is preferred that the primary layer of polyester contains little or no filler so as to maintain optimum optical properties (column 5 lines 53-56). Additionally, the composite film may be coated on one or both sides with one or more adhesion promoting coatings (Column 6, lines 61-62). In the examples, Rakos et al. discloses a number of formulations for films comprising 2 layers of polyethylene terephthalate. In example 1, the primary film is unfilled, and the secondary layer contains 5% by weight

of silica particles. The composite film was 175 microns thick. This example had a luminescent transmittance of 50% (Column 7 example 1). In example 3, the primary layer was unfilled, and the secondary layer contained 7.5% by weight of silica particles. The composite film was 100 microns thick and had a luminescent transmission was 50% (Column 9, example 3). In example 2, the primary layer was unfilled, and the secondary layer contained 4% by weight of silica particles. The composite film was 178 microns thick and had a luminescent transmission of 70% (Column 8-9 example 2). Although Rakos et al. does not teach a film with a luminescent transmittance of 80% or higher, it is logical to believe that the transmittance is a function of film thickness and silica particle loading as demonstrated above. This would be particularly important for products requiring high transmittance, such as imaging media. Rakos et al. teaches that the degree of light transmission is important because if the media is too opaque, the image will appear dull and colors lose their vibrancy (column 1 lines 44-46). Rakos et al. allows for a silica particle loading as low as 1% by weight (described above). Therefore, one with skill in the art could formulate a composition with the required transmittance. Further, because the transmittance can be controlled, the haze of the film can also be controlled. If the film were made with of a composition resulting in a transmission of 80% or greater, the haze would necessarily be below 20%. This is because the sum total of transmission, absorption, and reflection must equal 100%. If the transmission is 80% the haze is must be 20% or lower. Additionally, although Rakos et al. does not specifically teach a level gloss for this film, it does teach the use of gloss enhancing agents (as described above). Therefore, the film could be made to have the gloss

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required with the addition of an appropriate amount of these additives. Finally, Rakos et al. teaches that the film could incorporate optical brighteners (described above), the use of which would allow the desired yellowness index to be achieved, particularly if the film was modified with an ultraviolet stabilizer.

Rakos et al. does not teach the incorporation of .5-30% by weight of a flame retardant into the disclosed film.

Oishi et al. teaches a method for preparing a modified polymer resin (title). These polymer resins include polyester such as polyethylene terephthalate (Column 17, lines 43-45). Oishi also teaches that in addition to a modified resin additive, an additive such as dimethyl methylphosphonate may be added to a resin to provide that resin with flame retardent properties (column 21 lines 4-11). Typically this flame retardent is added in an amount of 5-40% by weight (Column 23 lines 47-48). Additionally, Oishi et al teaches that ammonium polyphosphates are also a useful additive that can increase the flame retardency of a polymer resin (column 21, line 51-column 22 line 28). Oishi et al teaches that a Organic phosphorous flame-retardants promote char formation, which prevents oxygen from being distributed to the burning surface and prevents the release of flammable gas (Column 21, lines 11-19).

Therefore it would have been obvious to one with skill in the art at the time the invention was made to incorporate 5-40% by weight dimethyl methylphosphonate as described by Oishi et al. in the multilayer film (particularly the secondary layer) described by Rakos et al.

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One would have been motivated to make this modification due to the increase in flame resistance of the film one would expect to see as a result.

11. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakos et al. as modified by Oishi et al. as applied to claim 1 above, and further in view of Gareiss et al. (US5712336).

Rakos et al. as modified by Oishi et al. meet all of the requirements for claims 5 and 6, except for those stated below.

Rakos et al. as modified by Oishi et al. does not teach the use of .01-5% by weight of a UV stabilizer. Nor does it teach the use of a UV stabilizer that is one or more of the following group. 2-hydroxybenzophenone, 2-hydroxybenzotriazoles, organonickel compounds, salicylic esters, cinnamic ester derivatives, resorcinol monobenzoates, oxanilides, hydroxybenzoic esters, sterically hindered amines and triazines.

Gareis et al. teach a flame-proofed thermoplastic molding material that is comprised of a thermoplastic polyester and additives (abstract). The polyester preferably is made of polyethylene terephthalate (Column 2, lines 1-5). Gareis et al. also teaches that the thermoplastic materials may contain conventional processing assistants, such as UV stabilizers (Column 8, lines 57-61). Gareis et al. teaches that various substituted resorcinols, salicylates, benzotriazoles, and benzophenones are examples of UV stabilizers, and may be used in amounts up to 2% by weight. (Column 9, lines 1-4). It is well known that UV stabilizers improve weathering characteristics and inhibit discoloration of polymers.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate up to 2% by weight of a UV stabilizer such as a resorcinol or benzotriazole to the multilayer film described by Rakos et al. and modified by Oishi et al.

One would have been motivated to make such a modification due to the improved weathering characteristics and improved resistance to discoloration that one would expect to see as a result.

12. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakos et al. as modified by Oishi et al. as applied to claims 1 and 7 above, and further in view of Peiffer et al. (US6280833).

Rakos et al. as modified by Oishi et al. teaches all of the limitations for claims 9 and 10 except for those listed below.

Rakos et al. as modified by Oishi et al. does not teach the use of a hydrolysis stabilizer comprising .1-1% by weight of an alkali metal stearate/carbonate or alkali earth-metal stearate/carbonate. Additionally, Rakos et al. as modified by Oishi et al. does not teach the use of .05-.6% by weight of a phenolic stabilizer which has a molar mass greater than 500g. Particularly, Rakos et al. as modified by Oishi et al. does not teach the use of 1,3,5-trimethyl-2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl)benzene or pentaerythrityl tetrakis-3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate as a phenolic stabilizer.

Peiffer et al. teaches that alkali metal stearates/carbonates, alkali earth-metal stearates/carbonates, or phenolic stabilizers having a molar mass greater than 500g are

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commonly used to stabilize many polymers. Particularly, Peiffer et al. teaches that 1,3,5-trimethyl-2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl)benzene or pentaerythrityl tetrakis-3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate are especially preferred phenolic stabilizers. Both of these stabilizers are typically used in the amount of .05-2% by weight (Column 8 lines 36-47). Stabilizers are well known compounds that improve processing characteristics as well as performing other functions, such as serving as a water or oxygen scavengers.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate .05-2% of a metal stearate/carbonate, alkali earth-metal stearate/carbonate, or phenolic stabilizer as described by Peiffer et al. to the multilayer film described by Rakos et al. and modified by Oishi et al.

One would have been motivated to make this modification do the to improved processing properties one would expect to see in the resulting product.

13. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rakos et al. as modified by Oishi et al. and Peiffer et al. as applied to claims 9 and 10 above, and further in view of Brunow et al. (WO 97/00284).

Rakos et al. as modified by Oishi et al. and Peiffer et al. meets all of the limitations of claim 11 except for those listed below.

Rakos et al. as modified by Oishi et al. and Peiffer et al. does not teach the use of .01-5% by weight of either or both of the following compounds in addition to a hydrolysis stabilizer: 2-(4,6-diphenyl-1,3,5-triazin-2-yl)-5-hexyloxyphenol, and 2,2,-methylenebis(6-(2H-benzotriazol-2-yl)-4-(1,1,2,2-tetramethylpropyl)phenol).

Brunow et al. teaches a transparent amorphous sheer comprising polyethylene terephthalate and UV stabilizers. Preferred UV stabilizers are 2-(4,6-diphenyl-1,3,5-triazin-2-yl)-5-hexyloxyphenol and 2,2',-methylenebis(6-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol. UV stabilizers are well known to increase the weatherability of polymers and to improve the resistance of a polymer to discoloration. One with ordinary skill in the art would be able to determine an appropriate amount of stabilizer to use by weight.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate .01-5% by weight of a UV stabilizer, particularly 2-(4,6-diphenyl-1,3,5-triazin-2-yl)-5-hexyloxyphenol, into the multilayer film described by Rakos et al. and modified by Oishi et al and Peiffer et al.

One would have been motivated to make this modification due to the increase in weatherability and improved resistance to discoloration one would expect to see in the resulting polymer.

Conclusion

It should be noted that Derwent 1997-077496 is cited as an English language abstract of WO 9700284.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhler whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.

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December 11, 2001

Paul Thibodeau

Paul Thibodeau
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